



ENCAUSTIC TILES. I.



FROM AN ENCAUSTIC TILE IN WINCHESTER CATHEDRAL.

The attention which has been recently bestowed on the science of ecclesiastical architecture has led to a more perfect understanding of the principles upon which those wonderful buildings, which were erected during the most flourishing period of the pointed style, were designed and constructed. The distinctive employment of every artist was regulated as it were by one master mind, for whether the artist worked in stone, in wood, in metal, in glass, or in clay, the general effect of his work upon the building, as a whole, was kept in view, and harmony and propriety seldom or never violated.

In our own day there is a disposition to follow the ancient example, so as to give to our churches a beauty and propriety of appearance, which while it is quite consistent with devotion, may be taken as "an outward and visible sign," of our love, respect, and devotion, to the religion which we profess.

It was customary in some of the Norman churches, to adopt mosaic work as an embellishment of the floor of the high altar, and before shrines. The Normans seem to have derived the mosaics from the tessellated pavements of the Romans. At first they exhibited scripture stories, painted upon glazed bricks and tiles of an irregular shape, fitted together as the colour suited, and upon the same plan as the stained glass in windows. As a subsequent improvement, the bricks are made equilateral, and about four inches square, which, when arranged and connected, produced an effect similar to the Roman designs, yet wanting their simplicity and taste. The wreaths, circles, and single compartments, as Dallaway remarks, retain marks of Gothic incorrectness, and of as gross deviation from the original as the Saxon mouldings. At what period heraldic devices were introduced cannot be ascertained with precision, but it is probable that when they were carved or painted upon escutcheons, or stained in glass, the floors received them likewise as a new ornament. The arms of founders and benefactors were usually

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FROM AN ENCAUSTIC TILE IN THE CHAPTER-HOUSE, WESTMINSTER. SUPPOSED TO REPRESENT HENRY III.

inserted during the middle ages after the Conquest, when many of the greater abbeys employed kilns for preparing them, from which the conventual, and their dependant parochial churches, were supplied. Some have conjectured that the painted tiles were made on the Continent, and imported to England; others state them to have been manufactured by Italian artisans, settled in this country, and that the monks having acquired the art of painting, and preparing them for the kiln, in the manner of porcelain, amused their leisure by designing and finishing them. A few years ago, Mr. Harvey Eginton, of Worcester, discovered an ancient tilekiln near Malvern, which proved, beyond a doubt, that the ornamental tiles were of English, and not of continental manufacture.

The site of the kiln was on land formerly belonging to the Priory of Malvern, and situated about two hundred yards from the church and abbey-house. Fine clay is found on the spot, and at a few yards distance is a worn-out clay or marl pit. The kiln was about seven feet under ground, and consisted of two parallel arches, about thirty-five feet in length, each two feet three inches wide and fifteen inches high. The arches were composed of layers of brick and tile, the outside being of the latter, and the inside of the former material. Considerable precautions had been taken to prevent

the heat from bursting the kiln, by backing up the arches with large masses of the Malvern ragstone, bedded in clay, and the equal necessity of lowering the crown of the arch, probably suggested the idea of burying the kiln under ground. No flue or fire-holes were found in the kiln, except at each end. The floor on which the tiles appear to have been burnt, was found entire, though in some cases supporting the fallen arch, and the weight of soil above; it was constructed without any other support than the outside bricks, (the floor being composed of three,) worked into the arch at the springing, with the middle brick, from its wedge form, acting as a key-stone.

A peculiarity of this floor was, that whilst the brick and tile forming the arch were highly vitrified, the floor remained not in the slightest degree so, being composed of a much whiter clay than the bricks of the arch. Below the floor was the fire-place, also about fifteen inches in height; its bottom was the natural soil, but burnt, until in hardness and colour it resembled limestone. The tiles found in and near the kiln, were similar to those in Great and Little Malvern churches; some pieces were vitrified together. Among the rubbish was found a quantity of horns and bones, with some pieces of charcoal, the former probably used in the manufacture of the tiles, and the latter in burning them.

At the period when this branch of encaustic painting had reached its highest perfection, the tiles (though seldom of more than two colours,) are remarkable for exquisite delicacy and variety. Their use was almost entirely confined to consecrated places; all that have been discovered since the Reformation, have been upon the sites of convents. Amongst those of later date are found arms impaled and quartered, as well as scrolls; the rebus and ciphers are also frequent. Interspersed with other devices are single figures, such as griffins, spread-eagles, roses, fleurs de lys, &c., of common heraldic usage, but not individually applied. Some of the tiles were of an emblematical character; thus the cock and the fox, symbols of vigilance and subtlety, are not uncommon in monastic buildings. The fish also occurs, and is probably an emblem of St. Peter. Sometimes these tiles are made to form a cross upon the pavement of a church. No ornament is more frequent upon ancient grave-stones, than this symbol, the patterns of which occur in infinite variety, and are produced in various manners, sometimes engraved, sometimes carved in relief, and, at a later period, inlaid with brass. In Worcester cathedral is a specimen of encaustic tiles so employed.

In Little Marlow Priory a tile exhibits a fool's head or cock's comb, with an inscription giving the name of the maker, *Ricardus me fecit*.

The various devices and forms which have been employed in encaustic tiles are now being collected by Mr. Nichols, whose object it is to direct the attention of architects to that mode of pavement for churches, particularly for chancels and other open parts, which is most appropriate and accordant with ancient example; and which he was induced to suppose would, if revived in a correct spirit, be found at once decidedly beautiful and economical.

In the year 1837 the spacious and handsome chancel at Stratford upon Avon, repaired by public subscription, was repaved in an ornamental manner by a new pavement of black and white lozenges, so far as the ancient stalls extend. In the subsequent repairs of the same church encaustic tiles were to be introduced. Mr. Harvey Eginton, the architect, has copied original specimens, excepting those in which the arms of the benefactors are introduced. He has laid down similar pavements, but of an earlier date, (viz., the Early English,) at Wilmcote chapel near Stratford, St. Michael's at Worcester, and St. James's near Malvern.

A short time ago the ancient pavement which was

known to exist in the Chapter-house, at Westminster, was laid open in several places by the removal of the superincumbent wooden flooring, and was found in so perfect a state, very few of the tiles being broken, and the colours in many parts as brilliant as when first laid down, that the gentlemen engaged in the repairs of the Temple church were at once inspired with the idea of imitating so excellent an example. Fac-similes of some of the very fine tiles in this Chapter-house were therefore copied for a portion of the pavement of the Temple.

One of the tiles from this Chapter-house is copied at the head of this notice. It is a very interesting specimen, and furnishes by its costume an intimation of the probable age of the tiles in question. This tile probably represents Henry the Third; there are also two others supposed to represent his Queen, and the Abbot of Westminster.

The tiles in this Chapter-house are of various sizes, according to the pattern required; the smallest of the square tiles being about $5\frac{1}{2}$ inches, and the largest about $9\frac{1}{2}$ inches.

The use of encaustic tiles was not confined to pavements: they seem to have been partially used on walls, and were intended to have the effect of tapestry hangings. This species of ornament, so far as is known, is peculiar to Malvern. Mr. Nichols gives a set of such tiles, which is peculiarly interesting from its having the date of its manufacture on its upper margin, thus:—

anno r. r. h. vi. xxx v j

that is, the thirty-sixth year of the reign of Henry the Sixth, 1457-8.

At Malvern also is the curious tile which has been so frequently noticed by antiquarians, but first correctly explained by an anonymous writer in the *Gentleman's Magazine*, for October, 1833. The interpretation will be sufficient for the general reader without giving the original enigma.

Think, man, thy life
May not ever endure;
That thou dost thyself,
Of that thou art sure;
But that thou keepest
Under thy executor's care,
If ever it avail thee
It is but chance.

This distrust of executors was very common in former times, when much was frequently left to their expenditure "in pious uses;" an expenditure which they were sometimes thought less liberal in making, than a wretched sinner himself might have been to purchase his own immunity from punishment.

Similar verses are not uncommon. The following curious specimen is depicted on the walls of St. Edmund's church, Lombard Street.

Man, thes behovyth oft to have this in mind,
That thou geveth wyth thin hond, that sall thou find,
For wydowes be sloful, and chylidren beth unkynd,
Executors beth covetos, and kep al that they fynd;
If eny body esk wher the deddys goodys be gon,
They ansquer,
So God me helpe and Halidam, he died a pore mon.
Thenk on this.

The frequency of our ancestors not trusting to their executors for their sepulchral monuments is attested, not only by many actually recorded to have been erected by the parties themselves, but by the large number on which, after they had been so prepared, the executors have neglected to insert the date of the party's decease. The object therefore of these exhortations appears partly to have been to urge the people to liberality in their works of piety and charity during their lifetime, instead of deferring them for bequests in their wills.

VEGETABLE FOSSILS.

II.

IN a late number of the *Saturday Magazine* we traced the changes of vegetable matter that are exhibited by hay, peat, bituminous wood, coal, and the black bituminized remains of grasses, reeds, &c., that are found in the slate which forms the floors and roofs of coal mines. Proceeding now to the examination of vegetable fossils in which the introduction of earthy or metallic particles has taken place, it may be necessary to observe, that wood, or other vegetable matter, is not likely to undergo this kind of impregnation whilst in a state of soundness and integrity. The states most favourable for this kind of change are a spongy condition that accompanies bituminization, and that kind of decay which has been produced by the abstraction of almost all the constituents except the woody fibre. To the substance that remains, in such a case, is generally applied the term of rotten wood. When in the spongy condition, the admission of water strongly impregnated with earths or metals, must, as the deposition and consequent earthy or metallic change proceeds, stay the further progress of the bituminizing process, and, giving solidity to the mass, secure the conservation of the form and even structure which the mass possessed at the period when this impregnation commenced. Specimens of silicified wood, or that changed into the matter of flint, exist, in which it may be seen that petrification has arrested the bituminizing process in almost all its stages. Specimens are also frequently found which seem to prove the wood to have existed in a decayed state, as *rotten wood*, previous to its mineralization.

Of the earthy petrifying agents, lime is not very frequent. It is, however, sometimes found introduced into the remains of wood in the form of spar; and sometimes it becomes, in the form of limestone, the internal substance of fossil reeds and of various succulent plants. The mineralization of vegetable substances is most frequently effected by those solutions in which siliceous, or the matter of flint, is the principal constituent; and the fossils thus formed are remarkable for the correctness with which their forms and markings have been preserved. Siliceous wood is generally greyish and yellowish white, thence passing into ash grey, greyish black, and different shades of brown. Its internal lustre is glistening, and its fracture shows the woody texture. The fragments are sharp-edged and translucent. It is found in many parts of the world; but some of the finest specimens are obtained in the neighbourhood of Schemnitz, and at Telkabanya, in Hungary.

It is frequently found in England. Very large fragments are met with in the Portland stones, the interstices of which are often beautifully sprinkled with quartz crystals. Interesting specimens are also discovered in the gritstone in the Blackdown pits of Devonshire, as well as in the sands of Bedfordshire. It is but rarely found in chalk, but in almost the whole of the greensand formation that lies below the chalk.

The varieties of *siliceous wood* depend not only on the nature of the combinations forming the stony matter of which it is chiefly constituted, but also, as has been already observed, on the state of the wood previous to petrification. When the fossil is light-coloured, and of a shivery texture, the wood may be presumed to have been previously in a decayed state, and when close, compact, and dark-coloured, it may be supposed to have suffered previous bituminization.

Some *Chalcedonies*, when cut and polished, display evident marks of vegetable texture; either that of fine-grained woods, or of some of the palms or reeds, the spaces being filled up with flinty matter, either translucent, or of an apple-green colour. *Jasperine wood* exhibits all the colours and appearances belonging to common jasper, so disposed as to mark the existence of

woody structure, and frequently so varied as to give the resemblance of different woods. The texture of wood is discoverable in some very rare specimens of *Heliotrope*, or blood-stone. The *opal* is also an occasional preservative of wood.

The metallic fossil vegetables are most commonly mineralized with the pyrites, or sulphurets and carbonates of iron, copper, zinc, and lead. In the specimens that occur, for example, at Herne Bay, the sulphuret of iron pervades the charcoal into which the vegetable matter has been converted. When first found, it generally possesses metallic brilliancy, is sufficiently hard to scratch glass, emits sparks on collision with steel, and displays the forms and markings pointing out its vegetable origin. But it soon begins to suffer from decomposition, when its characters change, and it finally breaks down into a saline flocculent substance.

Innumerable seeds, seed-vessels, &c., have been found in the blue clay of Sheppey in the state of pyrites, or sulphuretted iron. Most of these belong to plants unknown to our botanists: the existing plants, to which the others seem to approximate, are some of those of the warmer climates. The finest specimens of wood fossilized by copper are obtained from the copper mines of Siberia. Specimens of wood containing *galena*, the sulphuret of lead, have been chiefly discovered in Derbyshire. Wood and other vegetable substances are frequently found in clay and limestone, in the state of charcoal. It cannot be always ascertained by what means this change has been effected; but in that which is found in the blue clay, and in other situations in which pyrites prevail, the change may safely be attributed to the decomposition of the pyrites with which these substances had been impregnated.

The leaves of plants, except those of grasses, reeds, and flowerless vegetables, are seldom found in a mineralized state. The lobes and leaflets of ferns, as has been before mentioned, are frequently found in a bituminized state in nodules of ironstone, and in immense quantities, with the remains of grasses and succulent plants, in the coverings of coal. Leaves of trees are only found in substances which appear to be of modern formation. Among these are said to have been discovered the leaves of the willow, the pear-tree, mulberry-tree, and of several others. Leaves are sometimes found in the old red sandstone, somewhat resembling those of trees, but which most probably have belonged to aquatic plants. The fruit of palms is more abundant than their leaves in the coal formation. It occurs in clusters of contiguous but separate nuts, which appear to have been lain in water till the soft integument having rotted, they fell asunder and were buried in the mud. Certain bodies found in chalk, and once considered, from their form, to be cones of the larch, have been proved by Dr. Buckland to be the fossil excrement of fishes.

Rounded pebbles, called moss agates, are frequently found on the coast of the North Riding of Yorkshire and Dr. Macculloch describes them as having been found on the shore at Douglas, in Scotland, and as containing substances which have the appearance of vegetables. But Brongniart concludes that they are merely metallic branchings, resembling in form and colour, but not partaking of the nature of vegetable structure.

Among the numerous remains of plants very few are found which agree in their specific characters with any known species, and many indeed differ so much as to render it difficult to determine even the genus under which they should be placed. Not a single lichen has been found in a fossil state, although they have so wide a geographical range, being spread over the whole surface of the globe, from the tropics to the poles. Lichens are, however, aerial plants, and cling to stones and trees, and of course could not exist before the rocks were raised from the bosom of the deep, or plants were

growing on the land. No fungus has hitherto been found in a fossil state. Nodules of iron pyrites, which assume almost every possible diversity of form, have sometimes been mistaken for fossil fungi; but their chemical composition precludes the idea of their being the remains or casts of fungi. The absence of fossil lichens and fungi from the upper strata, may be accounted for by reason of their perishable nature. The mosses have likewise perished, except in a few rare instances. Ferns are the most abundant plants in the coal formation; more than one hundred species have been described.

Some traces of fossil ferns are found in various strata, but in the coal they are foremost, not only in number, but in size. Some of the fossil ferns are so similar to those now growing on the surface of the earth, that no doubt is entertained they belong to the same genus. In the beds above the chalk, vestiges of ferns are comparatively very rare, and their numerical relation to other plants is nearly that which the existing species hold in temperate regions at the present day. The remains of the walnut, willow, birch, elm, chesnut, and other recent genera, are not found in, or below, the chalk.

Taking Britain as an example of the fossil flora of the world, the remains only of British plants are discoverable in the upper strata, while in the lower the fossils are those of vegetables now peculiar to the Tropics, or to much warmer climates than prevail in these latitudes at the present day. A vegetable deposit on the Frith of Tay, for instance, consists of the remains of leaves, stems, and roots, of many common plants belonging to the natural orders of Grasses, Sedges, and *Equisetaceæ*, or plants resembling the common marsh horse-tail. These are mixed with the roots, leaves, and branches of birch, hazel, and probably also alder. Hazel-nuts destitute of kernels are of constant occurrence. Whereas, if we descend to the coal formation, which contains upwards of one-half of the known fossil plants, we find fifty species of gigantic cactuses, the manifest products of a torrid climate, one hundred ferns, about twenty individuals similar to the *Equisetaceæ*, or horse-tails, sixty plants similar to the club-mosses of our living flora, besides cone-bearing trees, some of which are allied to the Norfolk Island Pine, together with a few palms, and many undetermined kinds of plants. The horse-tails, which are now met with, grow most abundantly in the Temperate Zone, and arrive at their greatest magnitude under the Tropics, where they attain a height of two or three feet, and a diameter of about an inch. But the fossil stems of these plants are frequently six or seven inches in diameter, and a few specimens have been found double that size. They differ from the natural order of the *Equisetaceæ*, moreover, in being covered with bark, of which the true horse-tails are destitute.

By these facts we learn that, at some very remote period, the surface of the earth must have abounded with a vegetation, of great variety of form, and luxuriance in size, such as is at present unequalled by the flora of the hottest and dampest parts of our Torrid Zone. These remains are found in conjunction with that substance which nature has, in all probability, formed from them, and which, by its peculiar combustibility, is rendered an invaluable article of fuel. Hence will appear, at least, one beneficent reason for the vast abundance of vegetable matter with which the earth must have been stored in its early ages. Another reason has been suggested by Brongniart, whose views of the subject we will give in the words of the late amiable Professor Burnett.

The office of the ferns and the other plants of the coal formation, and the final cause of their predominance in that period, would seem to be, that by their assimilation of the carbon of an atmosphere loaded with carbonic acid, and liberation of the oxygen with which it was combined, they might purify the air, and bring it into a condition in which it would become respirable by reptiles, beasts, and man.

That such was the primitive condition of the atmosphere, and that it was thus gradually purified by the growth of plants, seems to be not improbable, from the circumstance that reptiles and other cold-blooded animals, which can endure and enjoy an atmosphere that would be fatal to warm-blooded animals and man, are the earliest of which any fossil remains are found. That the atmosphere was at first very greatly loaded with carbonic acid, is probable from reptiles not appearing until after the coal formation, and that it required many successive generations of plants to render it respirable for birds and beasts, is also likely, as it is not until long after that any vestiges of these animals are found.

These were the immediate precursors of the human race, the sovereigns of a world which they underprize, and of which they little know the wonderful structure and the surpassing beauty. It is science which can alone display the greatness of the works of creation; it is science which alone can truly tell how much fashioning this earth required to make it habitable by man.

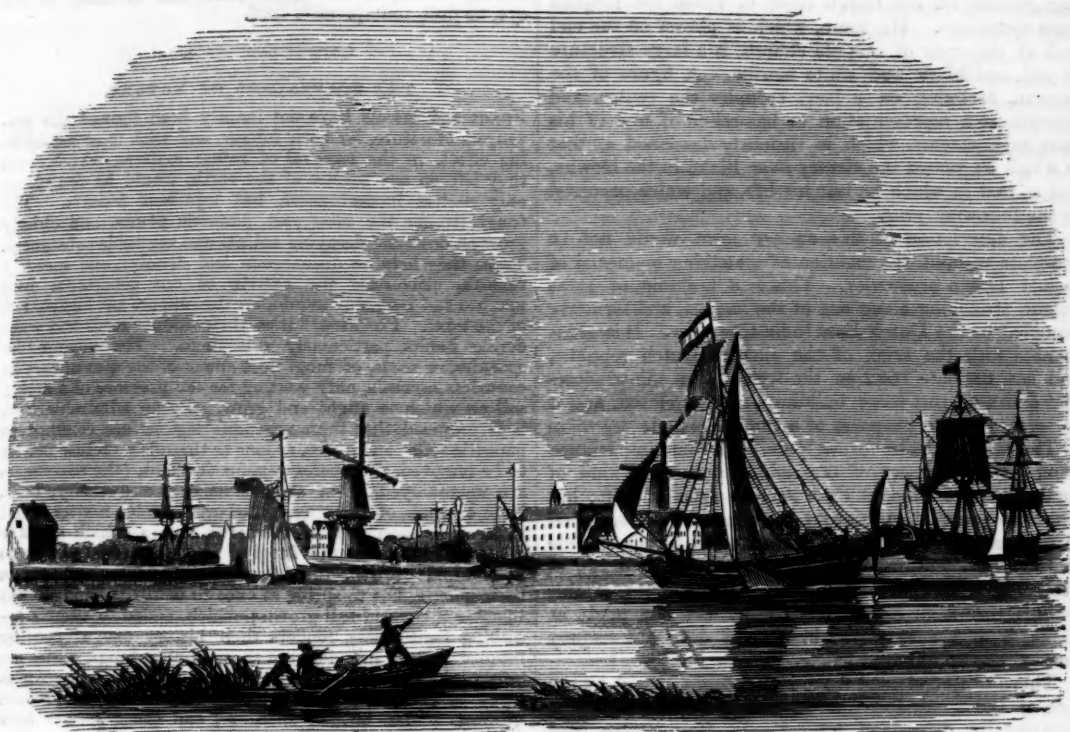
ADAPTATION OF VEGETABLE FORM TO SOIL.

NATURE has provided curiously against the drifting of sand in Australia, by the abundant distribution of two plants singularly adapted to the loose soil of that country. The first of these is a dwarf tree called by botanists *Eucalyptus dumosa*, but its root resembles that of a large tree; instead of a trunk, however, a few branches rise only above the ground, forming an open kind of bush, often so low that a man on horseback may look over it for miles. The heavy spreading root of this dwarf tree, and a kind of prickly grass, together occupy the ground between each bush, and prevent them from growing very close together; while the stems, being leafless except at the top, and also thus isolated, this kind of eucalyptus is almost proof against the running fires of the bush. The prickly plant resembles, at a distance, in odour and form, an overgrown bush of lavender; but the pedestrian and the horse both soon find that it is neither lavender nor grass, the blades consisting of sharp spikes, offering real annoyance to men and horses, as they shoot out from each bush in all directions. No animal eats these tufts, for, however young, they are completely armed. Neither will any one tread on them; and growing singly, the fire which checks all other Australian vegetation, cannot touch them; consequently these two plants flourish undisturbed, and seem intended to bind under the sands of the vast interior deserts of Australia.—MITCHELL'S *Australia*.

No one who is a careful observer of what has been, and is passing around him, will for a moment question that very great progress has been made by our country, during the present century, in all the various branches of human discovery and acquirements; but the precise amount, or the comparative value of that progress, cannot possibly be measured by the advances made in former periods, and which themselves are equally without a standard or measure of comparison. If, however, this difficulty could be surmounted, is it not probable that we should find—regard being had to the superior facilities afforded to each succeeding age through the labours of its precursors—that the efforts of the human mind, and the success attending those efforts, have been much the same at all periods; and that, consequently, if we have profited as well of our opportunities, as our fathers did of those bequeathed to them, we must have made greater and more rapid strides than any who have gone before us, in the walks of science and all other branches of intellectual progress, whereby we shall have prepared the way for a still more rapid advance on the part of those who will succeed us.—PORTER'S *Progress of the Nation*.

A MELANCHOLY joy, in truth, it is,
When half a life has fled, to see once more
Places long loved;—to mark how nature's face
Remains unchanged;—how little art has wrought
Of transformation in insensate things,
While human forms familiar—men who lived,
Thought, felt, rejoiced, and sorrow'd, hoped and fear'd,
Hated and loved, in time's relentless flight,
Have been by generations swept away,
Like shadows from the earth. But sadder still,
Methinks, the alteration wrought by age
In those who yet remain.—MOULTRE.

THE PORTS OF HOLLAND



II. DELFTSHAVEN.

DELFT, situated on the Schie, about eight miles from Rotterdam, is one of those gloomy old towns of Holland, whose chief interest lies in the recollections of the past, with which it inspires the intelligent traveller. Its long lines of trees wave over grass-mantled pools, and no longer afford refreshment to a busy and commercial population. The streets are silent and dull, and the feeling that its glory has departed cannot fail to strike the wanderer as he threads its almost empty thoroughfares. A few hours will now suffice to view the objects of interest in Delft. These are, first, the palace in which William I., prince of Orange, was assassinated. This is a plain brick building within a court-yard. It is called the *Prinsenhof*; and at present serves the purpose of a barrack for soldiers. The lobby in which the murder was committed, and the flight of stairs which the prince was about to mount, remain in existence. This prince had taken an active part in the expulsion of the Spaniards from Holland; and on this account he excited the malignant feelings of a Spaniard, named Balthazar Geraarts, who shot him in his own palace as he was about to ascend the staircase, on retiring from the dinner table. Some marks in the wall are still shown as those left by the shot, and a stone with a Dutch inscription records the event: "Below this stone are the marks of the balls by which Prince William of Orange was shot, on 10th of July, 1584." In the new church of Delft is the tomb of this prince, considered one of the most magnificent works of art in Holland. It is a gorgeous tribute to the memory of the prince, erected by the United Provinces; but it is deficient in taste. It consists of a sarcophagus, on which is a recumbent statue of white marble, of the prince, clad in full armour, with his sword and sceptre, and his faithful dog at his feet. At the four corners are bronze statues representing Liberty, Fortitude, Justice, and Religion. Under an arch at the head of the tomb is another statue of the prince, also in full armour, but in a sitting posture; and at the opposite end is a figure of Fame with expanded wings. A richly wrought

canopy surmounts the whole, and is supported by four buttresses of white marble, and twenty-two columns of black Italian marble. Of the favourite little dog, whose effigy is thus permitted to occupy a place in this splendid mausoleum, it is recorded that he was once the instrument of saving his master's life when midnight assassins approached the camp when the prince lay near Mechlin, in 1572. The assassins were creeping stealthily towards the spot, when the dog, as if aware of their purpose, jumped upon the bed, and barked violently, pulling aside the bed-clothes with his teeth and feet. The prince was thus roused in time to make his escape. When at length the prince fell a victim to the malice of Geraarts in his palace at Delft, the faithful animal pined away, and did not long survive his master; this we learn from the inscription on the tomb. The wife of William I., prince of Orange, was the daughter of the noble Coligny, who was murdered at the St. Bartholomew massacre. Thus this lady lost her father and her husband in the same shocking manner, and appears to have been a witness of the murder of both. The prince expired in her arms, beseeching God to have mercy on him, and on his poor nation. Not far from this splendid monument is a marble obelisk, with a cenotaph, which marks the place of interment of the learned Grotius, who was a native of Delft.

The old church of Delft is remarkable for its size, and for its extreme antiquity. It is a huge mass of brick, and, strangely enough, houses and shops are built within the recesses of its buttressed walls. Within these ancient walls is the monument of Admiral Tromp, and also that of the naturalist Leuenhoeck. Tromp was the hero of many celebrated sea-fights, and is especially noted as the antagonist of the English fleet under Blake. His victory over the English in the Downs, 1652, is the great event of his life. On this occasion he sailed through the Channel with a broom at his mast-head, as a sign that he had swept the sea of the English. This admiral was the conqueror in thirty-three engagements, and the Dutch speak in high terms of him to this day,

and are fond of decorating their houses with pictures of his exploits. Tromp was killed by a musket-ball in an engagement off the Dutch coast, in which the English were victorious. His tomb, which is placed on the end wall of the choir of this old church, is a large structure of red, and black and white marble. A figure of the veteran, reclining on a bier, occupies the centre, and beneath is a representation in bas-relief of one of his later engagements, which is variously described as that in which he gained the victory over Blake in the Downs, and as that in which he lost his life, and which occurred in the following year.

The description of this ancient town would not be complete without the mention of a striking memorial of former Dutch prosperity. This is a building of great extent, stretching along one of the havens, and formerly occupied by the Dutch East India Company. It is ornamented with the arms of the ancient Dutch republic, and has the date 1692 on the front. But the windows and doors of this large building are now closed, and it is devoted to the purposes of a State Arsenal.

The town of Delft formerly derived some importance from being the seat of the manufacture of a kind of earthenware to which it gave its own name of delft; but since the great improvements introduced by Wedgwood in the making of pottery, it has ceased to be remarkable in this way, and, in common with the other towns of Holland, it now derives the superior articles of this manufacture from England. The pottery now made at Delft is of a very coarse kind, and does not employ more than two hundred hands.

There is a good road from Rotterdam to Delft by the side of the canal, across a flat district of rich meadows, occasionally diversified by cottages, farm-houses, and villas, leaving a little to the left the smoky distilleries at Schiedam. The canal, which unites Delft with Rotterdam, gives to the former some of the advantages of a sea-port. Manufactures of woollen cloths and tobacco-pipes are still carried on at Delft, and there is also a considerable trade in butter. The scenery about Delft is completely Dutch, and comes under the description so pleasingly given by Mr. Laing of the general features of Holland, which we here quote.

Holland, the land of cheese and butter, is to my eye no unpicturesque, uninteresting country. Flat it is; but it is so geometrically only, and in no other sense. Spires, church towers, bright farm-houses—their windows glancing in the sun; long rows of willow trees—their bluish foliage ruffling up white in the breeze; grassy embankments of a tender vivid green, partly hiding the meadows behind, and crowded with glittering, gaudily painted gigs, and stool wagons, loaded with rosy-cheeked laughing country girls, decked out in ribbons of many more colours than the rainbow, all a-streaming in the wind; these are the objects which strike the traveller from seaward, and form a gay front view of Holland, as he sails or steams along its coast, and up its rivers. On shore the long continuity of horizontal lines of country in the back-ground, each line rising behind the other to a distant, level, unbroken horizon, gives the impressions of vastness and of novelty.

Holland can boast of nothing sublime; but for picturesque foregrounds,—for close, compact, snug home scenery, with everything in harmony, and stamped with one strong peculiar character, Holland is a cabinet picture, in which nature and art join to produce one impression, one homogeneous effect. The Dutch cottage, with its glistening black walls, white painted wood-work and rails, and its massive roof of thatch, with the stork clapping to her young on her old-established nest on the top of the gable, is admirably in place and keeping just where it is,—at the turn of the canal, shut in by a screen of willow trees, or tall reeds, from seeing or being seen, beyond the sunny bight of the still calm water in which its every tint and part is brightly repeated. Then the peculiar character of every article of the household furniture, which the Dutch-built house-mother is scouring on the green before the door so industriously; the Dutch character impressed on everything Dutch, and intuitively recognised, like the Jewish or gipsy countenance, wherever it is met with; the people,

their dwellings, and all in or about them—their very movements in accordance with this style or character, and all bearing its impress strongly,—make this Holland, to my eye, no dull, unimpressive land.

THE SCAVENGERS OF NATURE.

Fungi and insects have not inaptly been termed the scavengers of nature, for both labour, and with most astonishing effect, in the removal of refuse matters, which, were they left on the surface of the earth, would be found not only useless incumbrances, but injurious tenants. The fungi are, for the most part, parasitic plants, and chiefly grow on dead and decaying animal and vegetable substances. These they help to disintegrate and dissolve, and speedily remove, converting the exuvie of one generation into manure and vegetable mould, for the support and sustenance of the next. For these duties their minute seeds and wandering habits particularly suit them. The vapour-like spores, or seeds, of fungi float about in the atmosphere in countless myriads, only waiting for the presence of a fitting soil on which to alight and grow. By an admirable law, it is provided that these vegetable legions are confined to parasitic soils; and hence, as long as there is no refuse matter to be removed, the spores remain dormant, (the scavengers are unemployed;) but as soon as ever a quantity, be it large or small, of decaying animal or vegetable matter is left exposed, so soon is it covered with spores, which quickly develop themselves into fungi of various kinds. Owing to their rapid growth, fungi have been said to be never in their monage, but to spring at once to maturity, and almost to enter the world full-grown; which, added to their astonishing fruitfulness, renders their history one of peculiar interest. Each individual of these minute fungi, which are only noticeable when in legions, and which are known as smut in corn, has been calculated by Fries to produce upwards of ten million spores; and other species have been proved to grow at the rate of between sixty and seventy million cells per minute.

The peculiarity of their agency consists in their power of suddenly multiplying their numbers, to a degree which could only be accomplished in a considerable lapse of time in any larger beings, and then as instantaneously relapsing, without the intervention of any violent disturbing cause, into their former insignificance. If, for the sake of employing on different, but rare occasions, a power of many hundreds or thousands of horses, we were under the necessity of feeding all these animals, at great cost, in the intervals when their services were not required, we should greatly admire the invention of a machine, such as the steam-engine, which was capable at any moment of exerting the same degree of strength, without any consumption of food during the periods of inaction, and the same kind of admiration is strongly excited when we contemplate the powers of insect and fungus life, in the creation of which nature has been so prodigal. A scanty number of minute individuals, only to be detected by careful research, and often not detectable at all, are ready, in a few days or weeks, to give birth to myriads, which may repress or remove the nuisances referred to. But no sooner has the commission been executed, than the gigantic power becomes dormant: each of the mighty host soon reaches the term of its transient existence; and when the fitting food lessens in quantity, when the offal to be removed diminishes, then fewer of the spores will find soil on which to germinate; and when the whole has been consumed, the legions, before so active, all return to their latent, their unnoticed state; ready, however, at a moment's warning, again to be developed, and, when labour is to be done again, again to commence their work, either in the same districts, or to migrate in clouds, like locusts, to other lands. In almost every season there are some species, but especially in autumn there are many, which in this manner put forth their strength; and then, like Milton's spirits which thronged the spacious hall, "reduce to smallest forms their shapes immense."—BURNETT'S *Outlines of Botany*.

CANDOUR.

CHARITABLE and candid thoughts of men are the necessary introduction to all good-will and kindness; they form, if we may speak so, the only climate in which love can grow up and flourish. A suspicious temper checks in the bud every kind affection.—BLAIR.

SEASONAL WILD FLOWERS.

OCTOBER.

The flush of the landscape is o'er,
The brown leaves are shed on the way,
The dye of the lone mountain flower
Grows wan, and betokens decay;
The Spring in our valleys is born,
Like the bud that it fosters, to die,
Like the transient dews of the morn,
Or the vapour that melts in the sky.—Hosoe.

THE chilly morn and the hasty twilight now speak too plainly of the close of summer pleasures; but when the violent gales and rain that often mark the equinoctial period have passed away, we expect some lovely October days as signs of "fair Autumn's mellow reign," ere yet November's darker form appears.

Many of our hedges are now enlivened with the bright foliage of the Wild Cornel or Dog-wood (*Cornus sanguinea*), which, if it escaped our notice in June when it began to put forth its small white flowers, is sufficiently conspicuous now; for it is characteristic of this shrub to undergo a change at this period in the colour of its foliage from green to deep red. The Wild Cornel is a small bush with deep red branches, and smooth egg-shaped leaves. It is about five feet high, and bears white flowers, which are succeeded by purple fruit. This shrub is very frequent in our hedges and thickets, and helps, by its lively appearance in autumn, to atone for the absence of some of the flowers which previously adorned similar situations. The Cornel belongs to a small tribe of plants, called the Dog-wood Tribe, some species of which are found all over the temperate parts of Europe, Asia, and America. Barton informs us that the bark of two of the species is reckoned among the best tonics of North America, nothing having been found in the United States that so well answers the purposes of Peruvian Bark in intermittent fevers. One of the species just referred to (*Cornus florida*), when stripped of its bark, and rubbed against the teeth, is said to make them extremely white. A good scarlet colour may likewise be obtained from the bark. This American species grows to the height of fifty feet, and bears large pink and white flowers at the end of its branches, in May and June. An Austrian species is remarkable for its slow growth, requiring fifteen years to attain the height of ten feet. As might be expected, the wood is extremely hard. This tree is called the Cornelian Cherry (*Cornus mascula*), and yields a fruit which Dr. Lindley describes as eatable, but not worth eating. This fruit hangs in transparent drops, about the size and shape of a small olive, and looks very beautiful, like drops of cornelian among the branches. The fruit has been commended for cooling and astringent properties, and the bark of the tree as a good tonic.

There are two indigenous species of Cornel or Dog-wood well known in England. The first we have already described. It is common on a chalk or limestone soil, and the whole plant, as well as the fruit, is extremely bitter. The dwarf Cornel (*Cornus suecica*), grows in moist alpine pastures in Scotland, and the north of England, and has an herbaceous stem, from four to six inches high, with opposite elliptical leaves, and small dark purple flowers. The English names of the Cornel, according to Phillips, are scarcely less numerous than the tints of the leaves. The names of "hounds-berry," "dog-berry," &c., seem to be given to it because the fruit is generally despised for its bitterness, and is only fit for, or not even fit for dogs. The word "cornel" is derived from *cornu*, a horn, the wood being remarkably hard.

Another ornament of our hedges is the Spindle Tree or Prick-wood (*Euonymus europæus*), with its beautiful crimson berries. The fine and hard-grained wood of this shrub is selected for spindles, and for skewers,

but the whole plant is fetid and poisonous, and the berries are to be especially shunned, as they are violently emetic in their properties. The smooth branches of this shrub are angular when young, but afterwards become round. The leaves are egg-shaped, pointed and notched at the edge, the flowers are small, greenish-white, opening in May. The tribe to which this shrub belongs consists of natives of the warmer parts of Europe, North America, and Asia; but the greater number inhabit the tropics. Many are found at the Cape of Good Hope, some in Chili and Peru, and a few in New Holland. The seeds of several of the species yield an oil that is useful in burning, while a beautiful dye is obtained from some others. An acrid principle exists among many of the species. The botanical name of the tree, given in allusion to its poisonous properties, is derived from *Euonymus*, the mother of the furies.

The berries of the spindle tree, and the blushing foliage of the cornel, though enlivening our hedges for a time, bespeak, no less than the diversified tints of woodland scenery, the work of decay which is now going on, even under the garb of beauty.

Alas! those thousand hues declare
Corruption's work is busy there;
Forerunners they of winter's gloom,
A victim garnish'd for the tomb!
Too true, too true! for as we tread
The woodland path, behold, o'erspread
With leaves is all the slippery way,
Unseen consumption's early prey.
Nor flower is left to glad the sight,
Save that its streaks of pink and white
The Cranesbill here and there displays.

The species of Cranesbill noticed in these lines is the Herb Robert (*Geranium robertianum*), spoken of in a former article. This little gem of the woods and lanes exists until the end of the month, and even continues to show its face in November, if the weather continues fair and open. The leaves and stems occasionally assume such a brilliant red tint, that they are of themselves very ornamental to the thickets whence they peep forth. But if this is the only flower that decks the woods, there are some still existing in other situations, which may attract our notice for a time. One of these is the Yellow Procumbent Wood-sorrel (*Oxalis corniculata*), a little annual plant growing in shady places in our southern counties. It has a fibrous root, and a branched and procumbent stem, which, as it lies upon the ground, often takes root anew, thus quickly multiplying the plant. The flowers are yellow, and grow in small umbels. The plant is somewhat rare, but in localities that suit its growth, it spreads rapidly.

The narrow-leaved Wall-mustard (*Sinapis tenuifolia*) also continues in blossom during October, and lights up many a waste spot, or heap of rubbish, with its handsome lemon-coloured flowers. The plant is about two feet high, with a smooth erect stem, much branched, the upper leaves of which are lance-shaped, while the lower are deeply cut. The flowers are large and showy, but unpleasantly scented. They are succeeded by pods bearing a double row of seeds. This plant is chiefly seen in the vicinity of old towns, or among ruins. It belongs to a family which is as common as any we have had to describe, the different members having been abundantly scattered among the flowering plants of the preceding months. What more frequent than charlock? and the charlock of our cornfields is the wild mustard (*Sinapis arvensis*), the seeds of which give an inferior kind of mustard, sometimes mixed with the better sorts. Common mustard (*Sinapis nigra*) and White mustard (*Sinapis alba*) are both employed in the manufacture of mustard. The latter is also used as a salad. All these are common in waste places, and in corn fields.

One of the species of Scabious, called Devil's-bit Scabious (*Scabiosa succisa*) is still in blossom. This perennial weed delights in moist pastures, woods, and

hedgeways, and is sometimes seen in corn fields. It grows about a foot high. The root-leaves are long, dark, and hairy; the stalks are branching; the flowers are dark purple, sometimes milk-white, and resemble those of the garden scabious. The root has the appearance of being bitten off at the end, and this circumstance gave rise to the fable on which the name of the plant is founded. The plant is reputed to possess virtues which render it an effectual cure in cutaneous diseases, and it is said that the devil having found the herb in Paradise, and envying the good it might do to the human race, bit away a part of the root in order to destroy it; but the vigorous plant continued to flourish, though with a stumped root, which has remained throughout its generations.

On dry hilly banks and in pastures were still occasionally discover the Maiden Pink (*Dianthus deltoides*), with pale rose-coloured flowers, each having a circle of deep-coloured spots at the mouth. The stems are matted together on the ground, but in flowering they rise six or eight inches. A less pleasing, but more common plant, is also seen in gravelly or sandy fields, especially when they lie fallow. This is the Field Ladies' Mantle or Parsley Piert (*Alchemilla arvensis*). It has a fibrous root, spreading or prostrate stems, flat three-lobed leaves variously cut, and small green flowers. Some of the species of *Alchemilla* are ornamental in gardens, and for adorning rock-work. The small yellow flowers of the Early Winter Cress (*Barbarea præcox*) have not yet disappeared. This plant, which flowers from April to October, and is abundant in various parts of England, may be eaten like water-cresses, the only difference in the flavour being that winter-cress is rather more pungent. It is found on watery or grassy places, or on the banks of ditches. The flowers are succeeded by long square pods. The species propagates itself abundantly by seed, but the root is not perennial.

Even at this late period of the year we find a few newly opened flowers. Two species of crocus blossom during October, but they are confined to particular districts. One of this is the Naked flowering Crocus (*Crocus nudiflorus*), growing in sandy meadows between Nottingham Castle and the Trent; and the other the Showy Autumnal Crocus (*Crocus speciosus*), growing in meadows near Warwick; about Warrington; and near Halifax, Yorkshire.

The Ivy (*Hedera helix*) also opens its blossoms during this month, and affords an important supply of food to the remaining insects of the season. The botanical name of the Ivy is derived from *hedra*, a Celtic word signifying a cord; and the English name is derived from *ivo*, another Celtic word signifying green. The habit of this hardy climber is well known. The stem is branched, either trailing on the ground, or climbing, and attached by dense tufted fibres which appear to serve the purposes of support only, and not of nourishment to the plant. The lower leaves have five angular lobes, while those on the flowering branches are egg-shaped. The whole of the foliage is tough and shining. The numerous green flowers grow on umbels and are succeeded by berries the size of a currant, smooth, black, and containing five seeds.

This picturesque and beautiful plant softens down the features of many a rugged and uncouth building, and gives additional interest to ruined turrets, arches, bridges, &c. As it loses none of its beauty in winter, but rather appears to greater advantage when most other trees and shrubs are leafless, we are indebted to the ivy for much of the cheerfulness which yet remains to village scenery in winter. Many an old gateway, or dull garden wall, profusely decorated with this graceful mantle, has an air of elegance which we may seek in vain in more recent structures. The ivy not only invests buildings, but supports itself on other trees, embracing them so closely as to occasion their death. The injuries it com-

mits in this way are said to be very great, but Sir Thomas Dick Lauder gives a different opinion in the following remarks.

We have some doubts whether the accusations as to the felonies committed by ivy are not very much exaggerated, if not altogether unjust. We have remarked that this creeper has a greater natural inclination to attach itself to bare or dead trees, than to those which are in full vigour. This we have remarked in the course of planting ivy. The effect, therefore, may perhaps be mistaken for the cause; and thus where the increasing bareness of a dying tree may the more readily induce the ivy to ascend the trunk, it may very unfairly be accused of being the murderer. But, however this may be, a tree is sometimes well sacrificed to ivy where timber abounds. Nor is it always necessary to make a sacrifice of a tree for this purpose. Trees often die from causes which we cannot divine, and there is no one who is master of extensive woods, who does not meet with many such instances of unexpected and unaccountable mortality. Of such dead individuals we have often availed ourselves, and by planting ivy at their roots, we have converted them into more beautiful objects than they were when arrayed in all their own natural foliage. The variety called the Irish ivy, now so generally known, is that which does its work in the shortest time. We have known it cover a large square tower, to the very top, in the course of a few years, and as the leaf is much larger than that of the common ivy, its effect in general is much more massive. But we have seen situations where the common ivy, with its distinct, well defined leaf, and its close adhesion, gave us more pleasure to look upon.

The ivy is very generally distributed, enduring the heat of southern climes as well as the more temperate atmosphere of our isles.

Thou o'er the shrines of fallen gods,
On classic plains, dost mantling spread,
And veil the desolate abodes
And cities of the dead;
Deserted palaces of kings,
Arches of triumph, long o'erthrown,
And all once-glorious earthly things,
At length are thine alone.
Oh! many a temple, once sublime,
Beneath the blue Italian sky,
Hath nought of beauty left by time,
Save thy wild tapestry;
And, rear'd midst crags, and clouds, 'tis thine
To wave where banners waved of yore;
O'er mouldering towers, by lonely Rhine,
Cresting the rocky shore.

Ere we bid adieu to October flowers, we must name the Tree Mallow (*Lavatera arborea*), which may still be found in blossom on rocks along the sea-shore. This plant (named after the two *Lavaters*.) has large purplish rose-coloured flowers; woody stems; downy, plaited leaves; and is from to three to five feet high. It is a rare plant, flowering from July to October. Some common weeds, such as knot-grass (spoken of in our last,) perennial knawel, &c., scarcely merit particular description. The five-leaved heath still exhibits its hardy and beautiful blossoms; a stray branch of honeysuckle will, perhaps, offer us a parting wreath; the autumnal water star-wort shows its small flowers.

During the whole of this month the rich and bright colours of the woods and hedges, with the glowing tints of a variety of berries, hide from us, in a great measure, the dearth of flowers, or at least offer some compensation for their loss.

Those virgin leaves, of purest vivid green,
Which charm'd, ere yet they trembled on the trees,
Now cheer the sober landscape in decay:
The lime first fading; and the golden birch,
With bark of silver hue; the moss-grown oak,
Tenacious of its leaves of russet brown;
Th' ensanguined dog-wood; and a thousand tints
Which Flora, dress'd in all her pride of bloom,
Could scarcely equal, decorate the groves.